In the Claims

Please replace all prior versions, and listings, of claims in the application with the following list of claims:

1. (Currently Amended) A method for inducing a mucosal immune response, comprising:

administering to a subject in need of a mucosal immune response an effective amount for inducing a mucosal immune response of an oligonucleotide 8 to 100 nucleotides in length, having a sequence including at least the following formula:

$$5' X_1 X_2CGX_3 X_4 3'$$

wherein C is unmethylated, wherein X_1, X_2, X_3, and X_4 are nucleotides, and

an antigen,

wherein the antigen is not encoded in a nucleic acid vector, [[and wherein]] the oligonucleotide and the antigen are [[is]] administered to [[a]] the same mucosal surface of the subject, and the antigen is not a *Streptococcus pneumoniae* antigen.

2.-3. (Cancelled)

4. (Previously Presented) The method of claim 1, wherein the antigen is administered concurrently with the oligonucleotide.

5. (Previously Presented) The method of claim 1, wherein the antigen is delivered in conjunction with a colloidal dispersion system.

6. (Original) The method of claim 5, wherein the colloidal dispersion system is selected from the group consisting of macromolecular complexes, nanocapsules, microspheres, beads, and lipid-based systems.

7. (Original) The method of claim 6, wherein the lipid-based system is selected from the group consisting of oil-in-water emulsions, micelles, mixed micelles, and liposomes.

8. (Previously Presented) The method of claim 1, further comprising the step of administering a non-oligonucleotide mucosal adjuvant in conjunction with the antigen.

9. (Previously Presented) The method of claim 8, wherein the non-oligonucleotide mucosal adjuvant is selected from the group consisting of cholera toxin, derivatives of cholera toxin, heat-labile enterotoxin, derivatives of cholera toxin or heat-labile enterotoxin, alum, MLP, MDP, saponins such as QS21, cytokines, oil-in-water and other emulsion formulations such as MF59, SAF, Montanide ISA 720 and PROVAX, PCPP polymers, and ISCOMS.

10. (Cancelled)

11. (Previously Presented) The method of claim 1, wherein the subject is a subject at risk of developing an allergic reaction.

12. (Previously Presented) The method of claim 1, wherein the subject is a subject at risk of developing an infectious disease.

13. (Previously Presented) The method of claim 1, wherein the subject is at risk of developing cancer.

14. (Cancelled)

15. (Original) The method of claim 1, wherein the oligonucleotide includes a phosphate backbone modification which is a phosphorothioate or phosphorodithioate modification.

16. (Original) The method of claim 15, wherein the phosphate backbone modification occurs at the 5' end of the oligonucleotide.

17. (Original) The method of claim 15, wherein the phosphate backbone modification occurs at the 3' end of the oligonucleotide.

18. (Original) The method of claim 1, wherein X_1X_2 are nucleotides selected from the group consisting of: GpT, GpG, GpA, ApA, ApT, ApG, CpT, CpA, CpG, TpA, TpT, and TpG; and X_3X_4 are nucleotides selected from the group consisting of: TpT, CpT, ApT, TpG, ApG, CpG, TpC, ApC, CpC, TpA, ApA, and CpA.

19. (Original) The method of claim 1, wherein the oligonucleotide has a sequence including at least the following formula:

5' $TCNTX_1X_2CGX_3X_4$ 3'

wherein X_1, X_2, X_3,, and X_4 are nucleotides, N is a nucleic acid sequence composed of from about 0-25 nucleotides.

20. (Previously Presented) The method of claim 1, wherein the antigen is selected from the group consisting of cells, cell extracts, proteins, polypeptides, peptides, polysaccharides, polysaccharide conjugates, peptide mimics of polysaccharides, lipids, glycolipids, carbohydrates, allergens, viruses and viral extracts and parasites.

21. (Original) The method of claim 1, wherein the antigen is an allergen.

22. (Original) The method of claim 1, wherein the antigen is derived from an infectious organism selected from the group consisting of infectious bacteria, infectious viruses, infectious parasites, and infectious fungi.

23. (Original) The method of claim 1, wherein the subject is an asthmatic.

24. (Cancelled)

25. (Previously Presented) The method of claim 1, further comprising administering a B-7 costimulatory molecule.

26. (Original) The method of claim 1, wherein the mucosal immunity is induced in a remote site.

27. (Original) The method of claim 1, further comprising administering a boost of the oligonucleotide.

28. (Original) The method of claim 8, further comprising administering a boost of the oligonucleotide and the non-oligonucleotide mucosal adjuvant.

29-125. (Cancelled)

126. (Currently Amended) The method of claim 1, wherein the oligonucleotide and the antigen are [[is]] administered by inhalation.

127. (Currently Amended) The method of claim 1, wherein the oligonucleotide and the antigen are [[is]] administered [[by inhalation]] vaginally or rectally.

128. (Currently Amended) The method of claim 1, wherein the oligonucleotide and the antigen are [[is formulated for ocular administration, rectal administration, vaginal administration, intranasal administration or inhalation]] administered intranasally.

129. (Previously Presented) The method of claim 1, further comprising identifying a subject in need of a mucosal immune response.

130. (Cancelled)

131. (Currently Amended) A method for inducing a mucosal immune response, comprising:

administering to a mucosal surface of a subject in need of a mucosal immune response an effective amount for inducing a mucosal immune response of an oligonucleotide 8 to 100 nucleotides in length, having a sequence including at least the following formula:

$$5' X_1 X_2CGX_3 X_4 3'$$

wherein C is unmethylated, wherein X_1, X_2, X_3, and X_4 are nucleotides, and

exposing the subject to an antigen, to induce the mucosal immune response, [[and]]

wherein the antigen is not encoded in a nucleic acid vector and wherein the oligonucleotide is administered to a mucosal surface different from that at which the subject is exposed to the antigen.

132. (Cancelled)

133. (New) The method of claim 131, wherein the oligonucleotide is administered by inhalation and the subject is exposed to the antigen vaginally or rectally.

134. (New) The method of claim 131, wherein the oligonucleotide is administered rectally and the subject is exposed to the antigen orally, intranasally or by inhalation.

135. (New) The method of claim 1, wherein the antigen is a viral antigen.

136. (New) A method for inducing a mucosal immune response, comprising:

administering to a subject in need of a mucosal immune response an effective amount for inducing a mucosal immune response of an oligonucleotide 8 to 100 nucleotides in length, having a sequence including at least the following formula:

$$5' X_1 X_2CGX_3 X_4 3'$$

wherein C is unmethylated, wherein X_1, X_2, X_3, and X_4 are nucleotides,

a non-oligonucleotide mucosal adjuvant, and

an antigen,

wherein the antigen is not encoded in a nucleic acid vector, and wherein the oligonucleotide and the non-oligonucleotide mucosal adjuvant are administered to a mucosal surface of the subject.